provide high transmittance in the absence of an applied voltage. A comparison of liquid crystal optical display devices prepared from various uncured curable compounds and liquid crystal materials having both positive and negative dielectric anisotropies is provided in the specification (see Table 1 on page 29). This data is summarized and tabulated below for convenience. As is evident from Examples 1, 2, 5 and 7, when a liquid crystal having a negative dielectric anisotropy is included (Example 7), the transmittance of the optical device in the absence of an applied voltage is greatest (compare 86% for Example 7 (which meets the limitations of new Claim 17) with 79%, 78% and 82% for Examples 1, 2 and 5, respectively).

Table 1

Example	Main materials used	Conditions	T-VOFF	T-VON	ΔT	CR
1	Formula (4)	After	79%	23%	56%	
2	Formula (4) + chiral agent		78%	About 2%		33
5	Formula (4) + chiral agent		82%	About 3%		28
7	Formula (4) + Δε being negative		**86%**	24%	62%	

Boxed row shows improved transmission for device that is free of a chiral agent, has a liquid crystal having a negative dielectric anisotropy (Δε) and has polyimide films.

None of the prior art references relied upon by the Examiner disclose or suggest a method for preparing a liquid crystal optical device that requires that a mixture sandwiched between substrates must contain a liquid crystal having a negative dielectric anisotropy and be free of a chiral agent. Further, none of the prior art references relied upon by the Examiner disclose or suggest that improved transmittance can be achieved in the absence of an applied

voltage in a liquid crystal optical device by incorporating a liquid crystal material having a negative dielectric anisotropy and vertically orienting polyimide films (see new dependent Claim 18).

Applicants respectfully request the allowance of new Claims 17-32 in view of the lack of disclosure in the cited prior art regarding a requirement for the presence of a liquid crystal material having a negative dielectric anisotropy and the absence of a chiral agent.

In parent application 09/807,425, the Hasebe patent (U.S. 5,863,457) was applied as prior art under 35 U.S.C. § 102(b). Applicants note that the Hasebe patent does not qualify as prior art under 35 U.S.C. § 102(b) since the Hasebe patent issued on January 26, 1999 and the present application is a CPA of a national stage application of PCT international application JP 99/05765, filed on October 19, 1999. The effective filing date of a national stage application filed under 35 U.S.C. § 371 is the filing date of the international application (MPEP § 1893), which in this case is within one year of the issuance of the Hasebe patent.

Hasebe does not require the presence of a liquid crystal material having a negative dielectric anisotropy in the absence of a chiral agent. In fact, contrary to the presently claimed invention, Hasebe prefers that the dielectric anisotropy is positive (column 18, lines 57-59 and column 21, lines 52-61).

The claims of 09/807,425 were further rejected as anticipated or obvious in view of two patents to Hikmet (U.S. 6,171,518 and EP 0 562 681). The Hikmet patents do not require a chiral agent-free mixture containing a liquid crystal material having a negative dielectric anisotropy. Hikmet cannot therefore anticipate the presently claimed invention.

Moreover, neither of the Hikmet patents discloses or suggests that improved transmission in the absence of an applied voltage is achievable by including a liquid crystal material having a negative dielectric anisotropy in a liquid crystal optical device that is free of

a chiral agent. Applicants have demonstrated the superiority (e.g., transmission in the off-state) of the claimed invention in comparison to optical elements containing liquid crystal materials of positive dielectric anisotropy both with and without a chiral agent. The claimed invention is therefore not obvious in view of the prior art references relied upon by the Examiner.

New Claim 31 requires that the uncured curable compound contain at least one non-liquid crystalline compound. Support for the new claim is implicit in the Examples of the specification as originally filed where non-liquid crystalline monomers species are disclosed. The declaration submitted concurrently herewith under 37 C.F.R. §1.132 evidences that these monomer species are inherently non-liquid crystalline. The inclusion of a descriptive term such as "non-liquid crystalline" in the present application does not represent new matter since this property of the monomer compounds was implicitly disclosed in the application as originally filed by the disclosure of species of formula (1) of Claim 17 that are inherently non-liquid crystalline.

Applicants submit concurrently herewith an Information Disclosure Statement. Applicants respectfully request the Examiner return a signed and initialed copy of the form PTO-1449 with the next communication from the Office. Applicants further request the Office return a signed, initialed and dated copy of the form PTO-1449 submitted on April 21, 2003.

Applicants submit concurrently herewith a drawing change to Figure 2 to address the Examiner's objection to the drawing. Replacement sheets of Figure 2 are attached. The changes to Figure 2 include deletion of the bracket and replacement with a horizontal line. Applicants respectfully request the Examiner indicate that the replacement drawings are acceptable in the next communication from the Office.

Applicants submit the new claims are in condition for examination on the merits.

Applicants respectfully request the passage of all now-pending claims to Issue.

Respectfully submitted,

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SERIAL NO.: 09/807,425

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AMENDMENT AND REQUEST FOR RECONSIDERATION

IN THE SPECIFICATION

Please insert the following text as a separate paragraph as the first line on page 1.

--This application is a CPA of U.S. Application Serial No. 09/807,425, filed on July 3, 2001, now abandoned, which is a 371 of international application of PCT/JP99/05765, filed on October 9, 1999.--

Please replace the paragraph on page 9, lines 19-21 with the following paragraph.

--Figure 3 is a diagrammatic view showing [an embodiment of] the use of the liquid crystal optical element of the present invention as an automobile glass.--

Please replace the Table on Page 29 with the following Table.

Table 1

Example	Main materials used	Conditions	$T_{-V_{OFF}}$ [$T_{-V_{ON}}$]	[$T_{-V_{OFF}}$] $T_{-V_{ON}}$	ΔT	CR
1	Formula (4)	After	79%	23%	56%	
2	Formula (4) + chiral agent		78%	About 2%		33
3	Formula (5) + chiral agent		80%	About 3%		28
4	Formula (4) + chiral agent	20 Vrms 30 Vrms	82% 82%	About 7% About 2%		11 40
5	Formula (4) + Formula (6) + chiral agent		82%	About 3%		28
6	Formula (4) + chiral agent	Reflection type	23%	8%	15%	
7	Formula (4) + Δε being negative		86%	24%	62%	
A	Formula (3)		72%	29%	43%	
B	Formula (3) + chiral agent		61%	About 4%		17
C	Formula (3) + chiral agent	20 Vrms 30 Vrms	57% 49%	About 6% About 8%		10 6
D	Formula (3) + chiral agent	Reflection type	16%	9%	7%	
E	Formula (3) + Δε being negative		64%	20%	44%	
Note	CR represents the contrast ratio, and ΔT represents the difference between $T_{-V_{ON}}$ and $T_{-V_{OFF}}$.					

IN THE CLAIMS

17-32 (New).